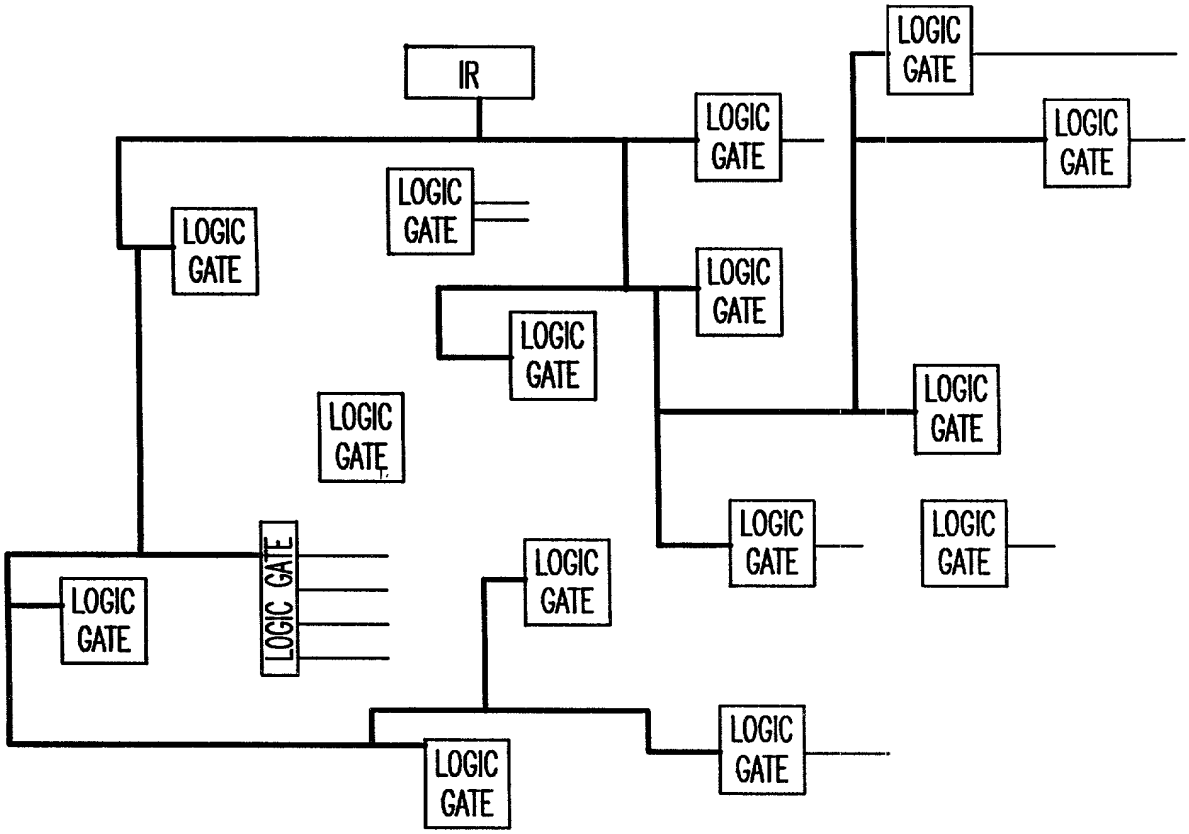

IR
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE
LOGIC GATE

FIG.1

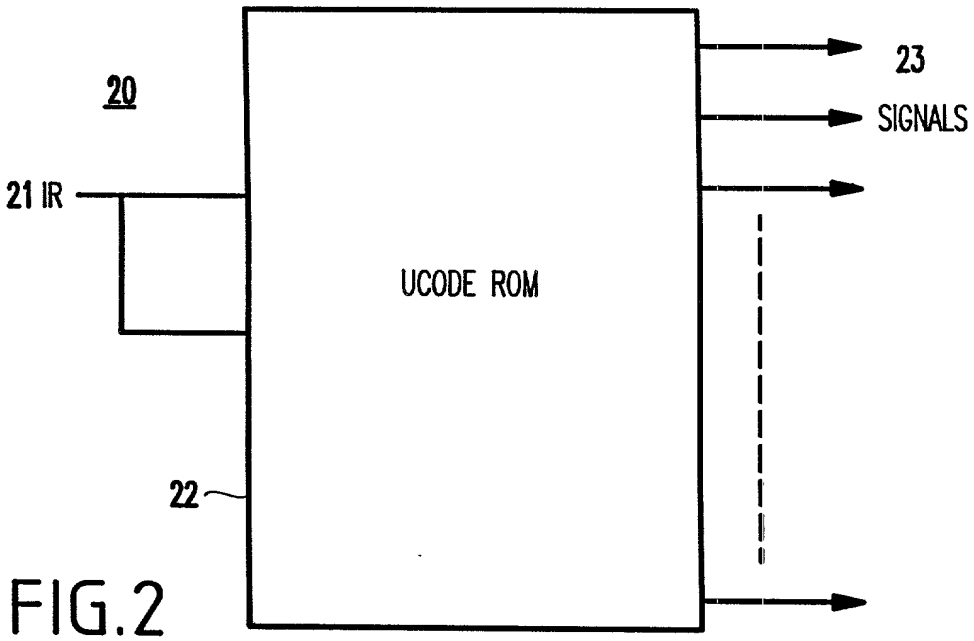

20
21 IR
22
UCODE ROM
23
SIGNALS

FIG.2

FIG.3A

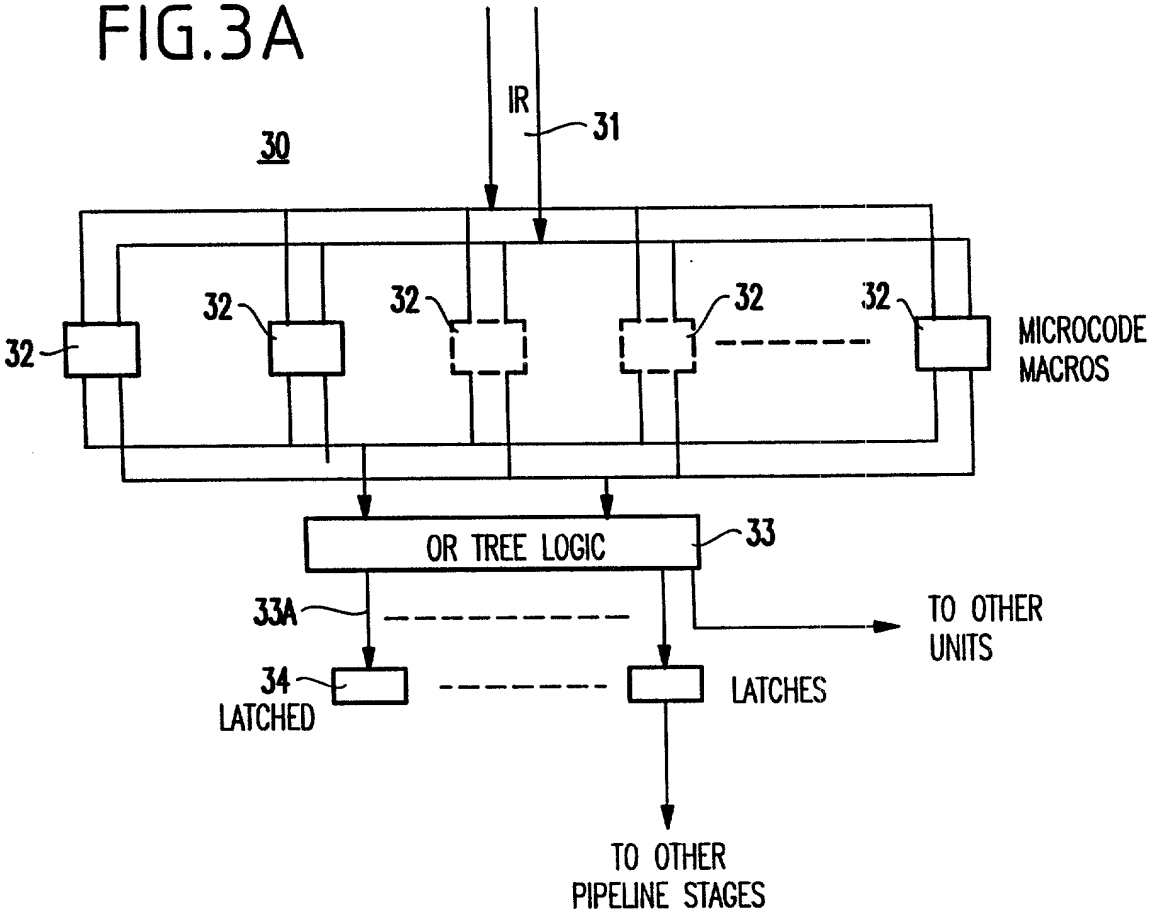
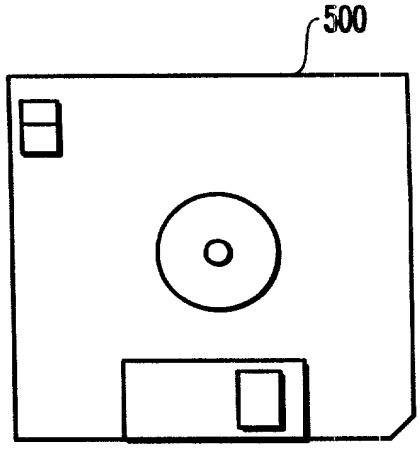

IR
31
30
32
32
32
32
32
MICROCODE
MACROS
OR TREE LOGIC
33
33A
TO OTHER
UNITS
34
LATCHED
LATCHES
TO OTHER
PIPELINE STAGES

FIG.5


500

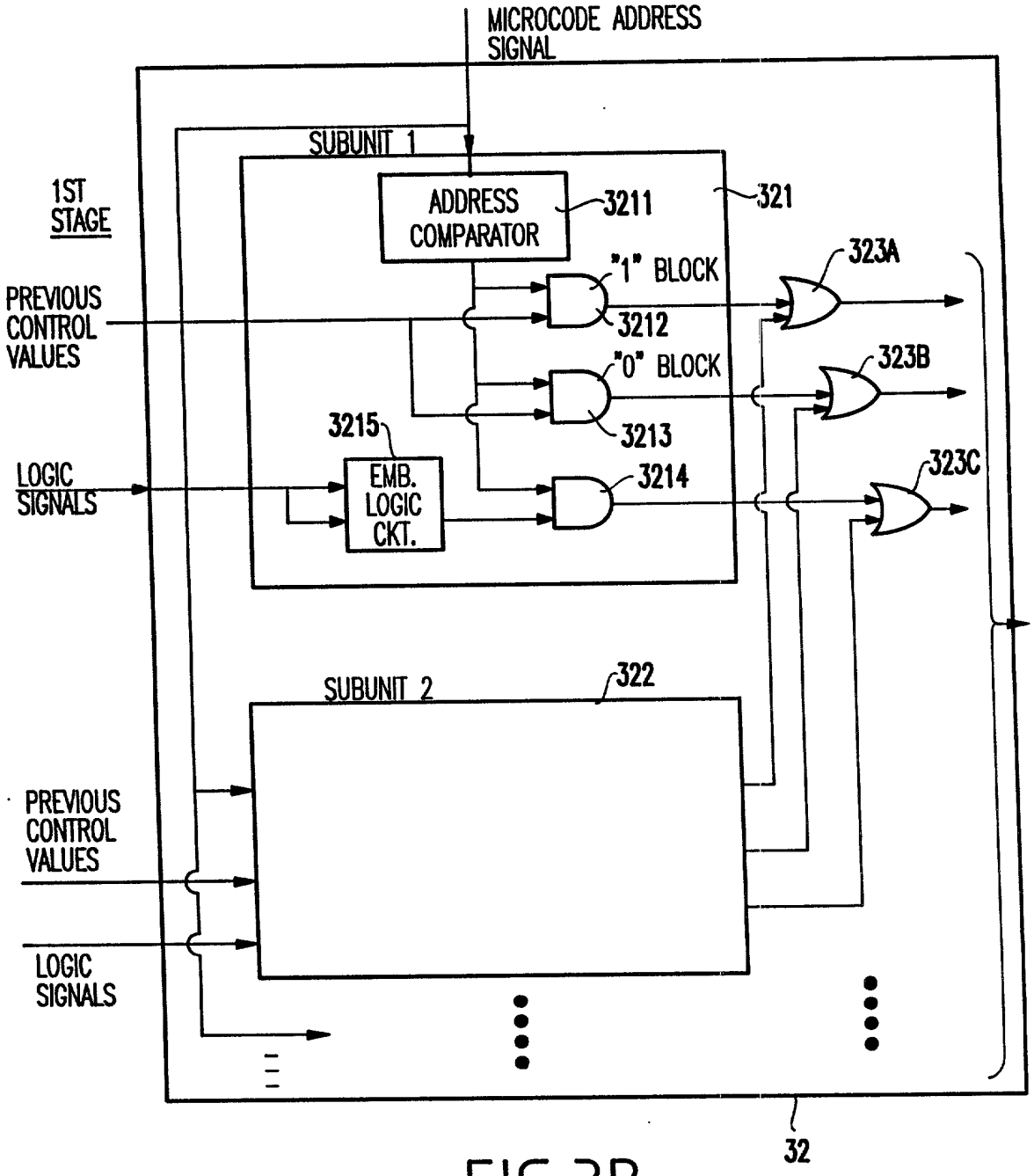

MICROCODE ADDRESS SIGNAL
SUBUNIT 1
1ST STAGE
ADDRESS COMPARATOR
3211
321
"1" BLOCK
3212
"0" BLOCK
3213
3214
3215
EMB. LOGIC CKT.
323A
323B
323C
PREVIOUS CONTROL VALUES
LOGIC SIGNALS
SUBUNIT 2
322
PREVIOUS CONTROL VALUES
LOGIC SIGNALS
32

FIG.3B

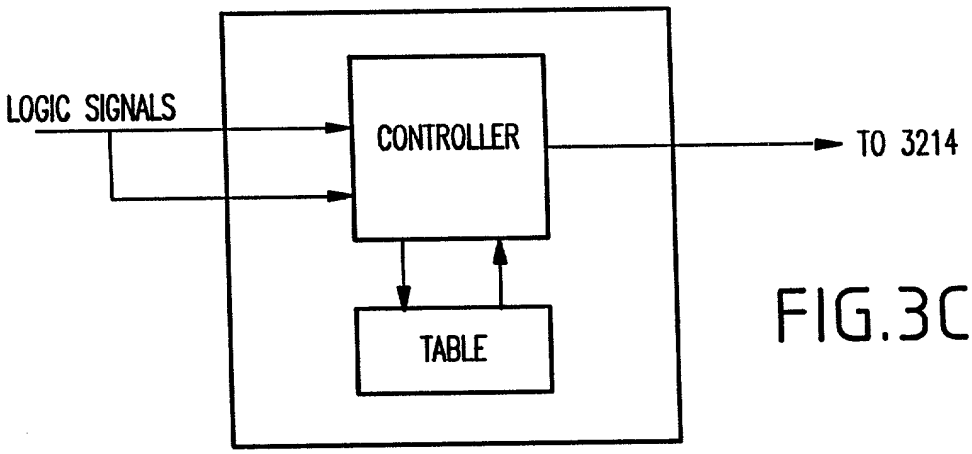

LOGIC SIGNALS
CONTROLLER
TO 3214
TABLE

FIG.3C

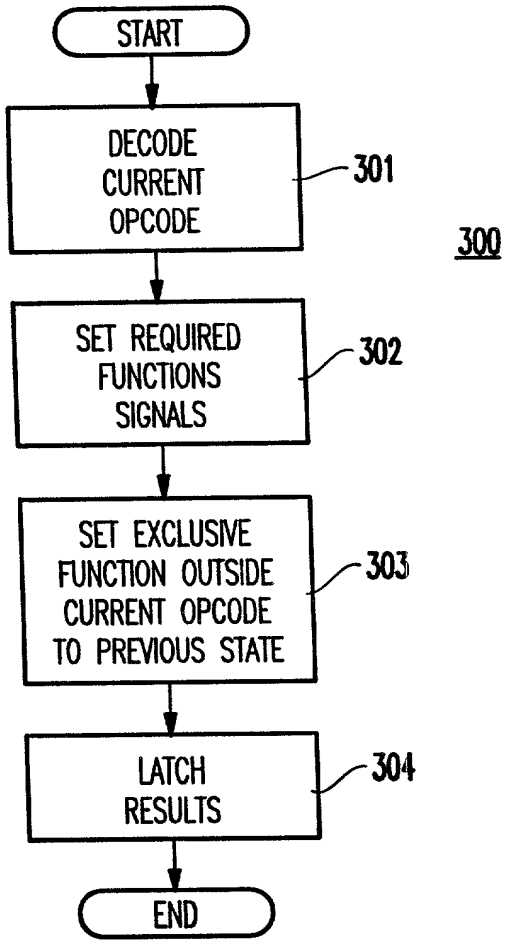

START
DECODE CURRENT OPCODE
301
300
SET REQUIRED FUNCTIONS SIGNALS
302
SET EXCLUSIVE FUNCTION OUTSIDE CURRENT OPCODE TO PREVIOUS STATE
303
LATCH RESULTS
304
END

FIG.3D

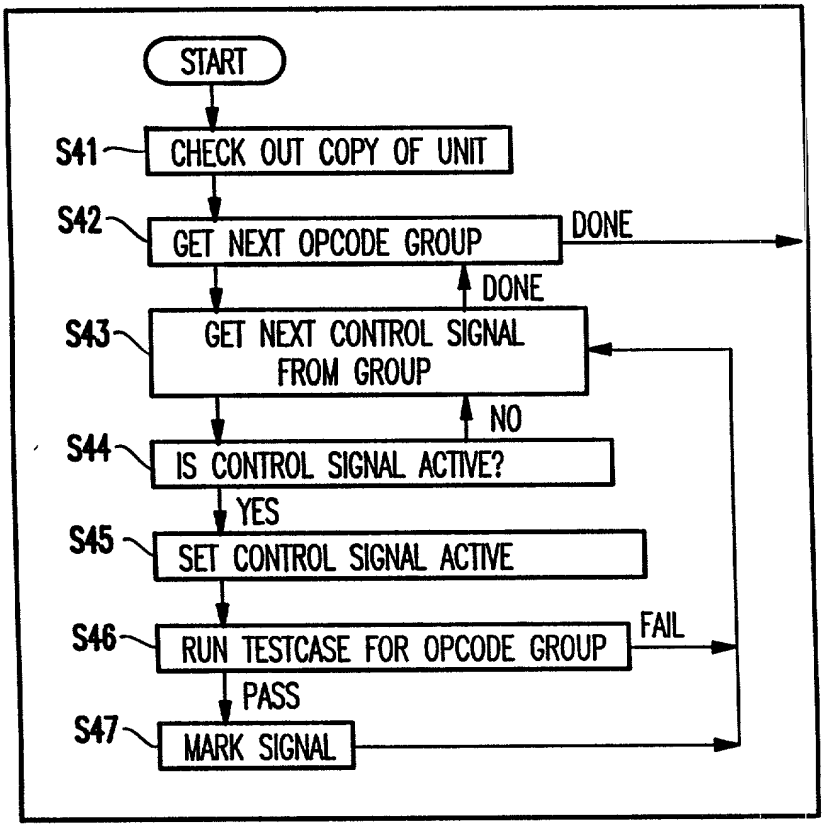

START
S41
CHECK OUT COPY OF UNIT
S42
GET NEXT OPCODE GROUP
DONE
TO S48
DONE
S43
GET NEXT CONTROL SIGNAL FROM GROUP
NO
S44
IS CONTROL SIGNAL ACTIVE?
YES
S45
SET CONTROL SIGNAL ACTIVE
S46
RUN TESTCASE FOR OPCODE GROUP
FAIL
PASS
S47
MARK SIGNAL

FIG.4A

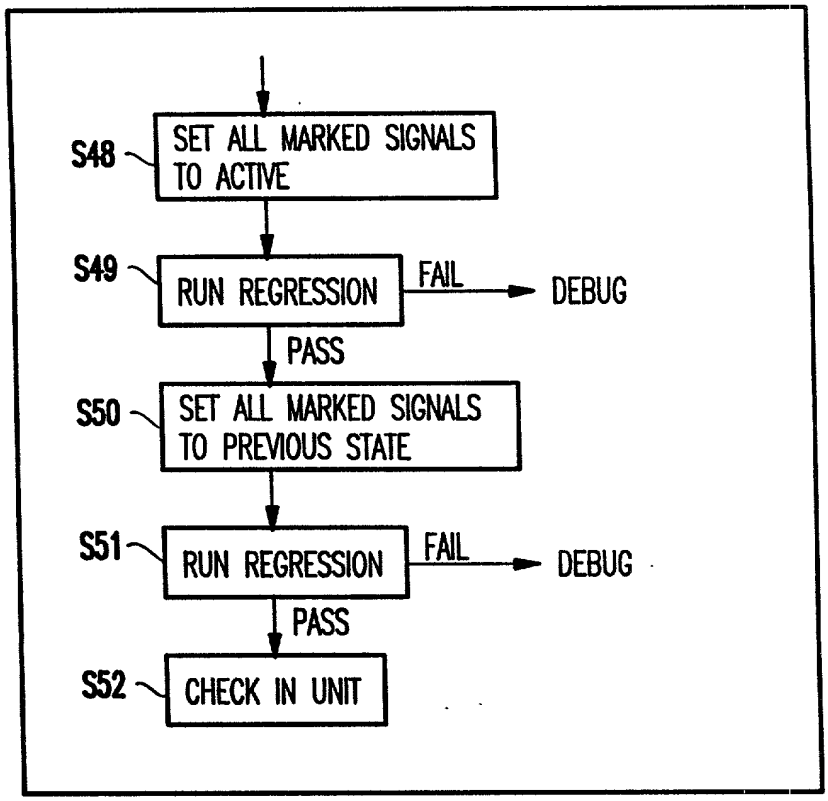

S48
SET ALL MARKED SIGNALS TO ACTIVE
S49
RUN REGRESSION
FAIL
DEBUG
PASS
S50
SET ALL MARKED SIGNALS TO PREVIOUS STATE
S51
RUN REGRESSION
FAIL
DEBUG
PASS
S52
CHECK IN UNIT

FIG.4B